

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 July 2004 (29.07.2004)

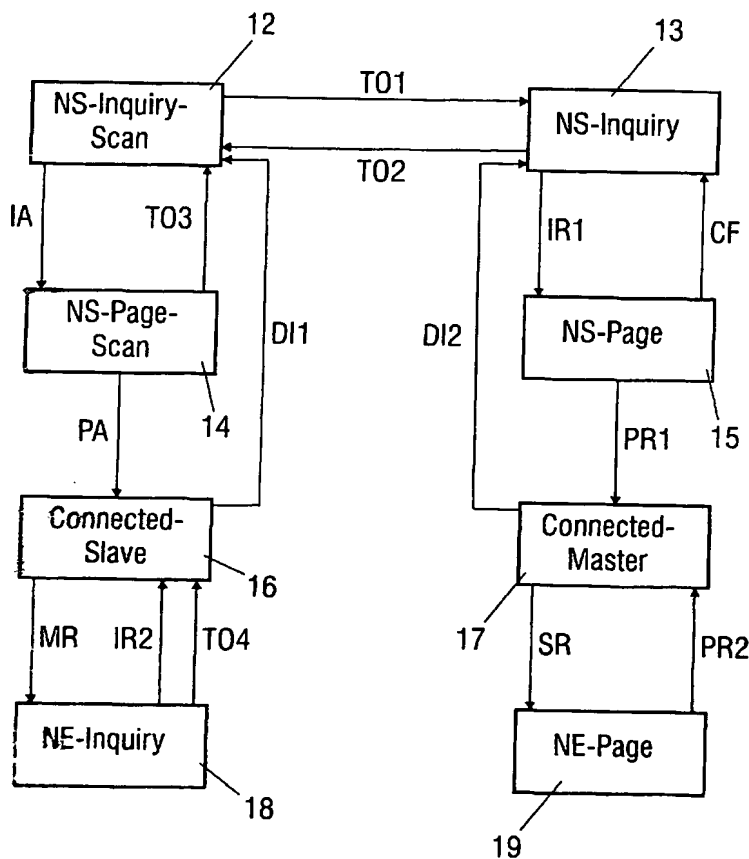
PCT

(10) International Publication Number
WO 2004/064328 A3

- (51) International Patent Classification⁷: **H04L 12/28** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (21) International Application Number: PCT/IB2003/006266
- (22) International Filing Date: 19 December 2003 (19.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 03100037.5 10 January 2003 (10.01.2003) EP
- (71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).
- (71) Applicant (for all designated States except DE, US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.**
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **FALCK, Thomas** [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **ESPINA PEREZ, Javier** [ES/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **MAASS, Henning** [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **WEIDENHAUPT, Klaus** [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).
- (74) Agent: **VOLMER, Georg**; Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,

[Continued on next page]

(54) Title: DYNAMIC NETWORK FORMATION FOR WIRELESS ADHOC NETWORKS



(57) Abstract: The invention relates to a network having at least one slave terminal and a master terminal that is connected thereto and that is provided for charging at least one slave terminal with requests to search for at least one other terminal to be incorporated in the network. After receiving a request, a non-incorporated terminal transmits a response to the requesting slave terminal and the requesting slave terminal forwards the response to the master terminal.

WO 2004/064328 A3



CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(84) **Designated States (regional):** ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

(88) **Date of publication of the international search report:**
21 October 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/06266

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/39484 A (ERICSSON TELEFON AB L M) 16 May 2002 (2002-05-16) page 2, line 13 - page 3, line 5; figure 3 page 4, line 8 - page 6, line 6; figure 5 page 7, line 9 - page 8, line 13 page 16, lines 3-27	1-7
X	WO 01/41377 A (ERICSSON TELEFON AB L M) 7 June 2001 (2001-06-07) page 11, line 22 - page 13, line 4 ----- -/--	1-7

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

13 July 2004

Date of mailing of the international search report

21/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Kreppel, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/06266

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>YONG LIU ET AL: "A bluetooth scatternet route structure for multihop Ad hoc networks"</p> <p>IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, IEEE SERVICE CENTER, PISCATAWAY, US, vol. 21, no. 2, February 2003 (2003-02), pages 229-239, XP002243904</p> <p>ISSN: 0733-8716</p> <p>page 233, left-hand column, last paragraph - page 233, right-hand column, paragraph 4</p> <p>page 234, left-hand column, paragraph 4 - page 234, right-hand column, paragraph 1</p>	1-7
P,X	<p>EP 1 357 712 A (SAMSUNG ELECTRONICS CO LTD) 29 October 2003 (2003-10-29)</p> <p>paragraphs '0041! - '0050!; figure 1</p> <p>paragraphs '0051! - '0053!; figure 2</p> <p>paragraphs '0054! - '0080!; figure 3</p>	1-7
A	<p>US 2002/044549 A1 (JOHANSSON PER ET AL) 18 April 2002 (2002-04-18)</p> <p>paragraphs '0080! - '0094!</p>	1-7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/06266

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0239484	A	16-05-2002	AU 1290902 A WO 0239484 A2 TW 529264 B	21-05-2002 16-05-2002 21-04-2003
WO 0141377	A	07-06-2001	AU 2035701 A CN 1408162 T EP 1236315 A1 JP 2003516033 T WO 0141377 A1 US 6751200 B1	12-06-2001 02-04-2003 04-09-2002 07-05-2003 07-06-2001 15-06-2004
EP 1357712	A	29-10-2003	CN 1453963 A EP 1357712 A1 JP 2003324447 A KR 2003084539 A KR 2003084555 A US 2003202477 A1	05-11-2003 29-10-2003 14-11-2003 01-11-2003 01-11-2003 30-10-2003
US 2002044549	A1	18-04-2002	AU 6451901 A WO 0197448 A2	24-12-2001 20-12-2001